

PRETORIA UP iGEM 2016 - SAFETY

Safety is an issue that cannot be over-emphasized and must never be compromised in the laboratory. Our team has made use of the Forest Molecular Genetics (FMG) group lab facilities to carry out experiments for our project as such we follow the safety rules as set out by this Lab.

All the team members working in the lab received safety instructions and training for working in the FMG laboratory. This training was instructed by the lab manager of the Forest Molecular Genetics group in the University of Pretoria, Mrs Elna Cowley.

The lab is equipped with controlled access, a biohazard disposal bin, autoclave, fume hood, eyewash and shower station, fire extinguishers, and fire alarm. The team follows and adheres to the safety guidelines in place for this biology lab.

PROTECTIVE CLOTHING AND FOOTWEAR: PPE-PERSONAL PROTECTIVE EQUIPMENT



- Always wear appropriate safety clothing. Lab coats and closed shoes are compulsory, as well as protective eyewear and nitrile gloves.
- Gloves should be removed before using door handles, or any other common surface which may be touched by people with no gloves.
- When preparing an agarose gel, wear safety glasses and gloves.
- Lab coats and gloves should not be worn in the passages, tea rooms and toilets.

FOOD/BEVARAGES



- No food or beverage is to be consumed in the laboratory.
- No food, beverages or empty containers are to be placed on any of the benches or in the laboratory refrigerators or freezers.
- Coffee mugs are not allowed inside the laboratory.

WORKING WITH CENTRIFUGES:

- Ensure that the centrifuge is correctly balanced.
- Ensure that the rotation speed does not exceed the safety limit for the rotor buckets used.
- Ensure that both the inner and outer lids are closed properly before use.
- Do not open the centrifuge while the rotor is still turning.
- After every centrifugation the rotors must be wiped with a damp (dH₂O) paper towel to clean.

SAFETY SHOWER & EMERGENCY EYEWASH STATIONS:



- Safety showers are available in the building
- Eye wash bottles are located in every lab above the basin.
- Rinse the affected eye/area for at least 30 minutes.

FIRE EXTINGUISHERS



- Fire extinguishers are located next to the doors of each laboratory.
- There are fire hoses located next to lifts.

FIRST AID



- A first aid cabinet/box is located in the lab and only contains medical supplies to be used in emergencies such as when someone is burned or cut in the lab.

GEL LOADING AREAS

Gel areas are considered EtBr areas. Ethidium bromide is a potent mutagen and should be treated as a possible hazard and carcinogen, therefore there are designated EtBr areas in the lab.



- Ethidium areas are marked with **RED TAPE**, and only EtBr equipment are used in these areas.
 - Gloves and Lab coats should be worn at all times when using EtBr and change your gloves when moving to a non-ethidium area.
 - Sinks used for EtBr are also marked with **RED TAPE**, this is for washing only.
 - All EtBr liquid waste is disposed in the marked containers.
- Gloves and gels are to be disposed of in the biohazard bins without contaminating the outside of the bin.

WASTE DISPOSAL



In order to minimize the release of the bacteria into the environment, specific disposal procedures were followed.

- Autoclave all liquid media that contain bacterial/fungal cells or viruses before disposing down the drain.
- Solid media (agar, tips, tubes etc. that were exposed to microbial cells and also agarose and polyacrylamide gels) should be disposed of in the biological waste containers.
- All chemical waste has to be disposed in different waste containers (NO MIXING).



As the Pretoria_UP iGEM team we are concerned about lab safety and have taken these necessary precautions to ensure safety in the lab when conducting our wet lab experiments.